

“The Green Revolution - Phase II, The Safe Storage Revolution” *Taking the next step in feeding the hungry and helping the small farmers*

~An ambitious vision and new policy paper by Philippe Villers, President of GrainPro, Inc., Concord, MA and Tom de Bruin, President GrainPro Philippines Inc, Subic Bay, Philippines – November 2009

In fulfilling its purpose as a “not-only-for-profit” company, GrainPro, Inc. with its groundbreaking airtight (hermetic) storage technology believes it can play a lead role in Phase II of “The Green Revolution” through resolving the safe storage problem both before planting and after harvest. This requires insuring not only that high performance seeds can reliably germinate even after up to a year’s storage in tropical and semi-tropical climates, it also requires that the resulting increased yields can be successfully stored by farmers and others for consumption between harvests, safe from molds, insects and rodents. This is the long-neglected, “safe storage part” of The Green Revolution without which bountiful harvests fail to meet the needs of the small farmers and the world’s hungry that need the food.

This is our new vision, and this paper is intended to discuss how one “green, not-only-for-profit” company can play a leadership role in bringing the vision of the Green Revolution Part II to fruition. Our goal is nothing less than helping to “feed the hungry” and helping the small farmer through highly cost-effective and simple airtight technology for safe storage.

HOW TO DO IT - THE COST EQUATION

GrainPro is still a small business. The costs that it must pass on to its customers are dominantly:

- 1) Manufacturing and transportation costs associated with small-to-medium volume batch manufacturing of its various hermetic storage systems designed to handle from 25 lbs. to thousands of tonnes of food commodities.
- 2) Distribution costs. A great part of these costs is the cost and long delays associated with introducing a previously unknown “disruptive technology” in over 35 countries with costs needing to be spread over a still relatively modest sales volume.

GrainPro must work in the generally conservative, slow to adopt, agricultural markets, which are still using established, but inadequate seed and post-harvest storage methods with their high level of losses in quantity, quality, health hazards (aflatoxins), and environmental degradation (pesticides and fumigants). To make a significant contribution it must do so at a scale of distribution needed to reach the millions of small farmers, and develop self sustaining long term market channels.

- 3) Past GrainPro Successes

GrainPro through more than a decade of persistent effort has developed successful markets in many (35+) countries principally through selling to large corporations and existing government programs, aimed primarily at large-scale storage dominantly for seeds, rice, corn, coffee and cocoa.

In a few examples, such as Ghana and Rwanda, GrainPro's technology has reached small farmers and farming communities through government programs and in one case (Ghana) through retail distribution. In another country (Guatemala) through its' "ProRural" program the government has committed to an initial significant "pilot program".

Nonetheless, as of now, the needs of millions of farmers in hot, humid countries for safe storage of both seeds and crops has been barely touched, and as a relatively small firm, GrainPro alone, cannot hope to make a major impact in this "Green Revolution – Part II, The Safe Storage Revolution."

TOWARDS BOLD INITIATIVES

Norman Borlag, through his extraordinary efforts and initiative starting in the late 1930's in Mexico, later in Asia, and finally Africa, helped to create what we know as the "Green Revolution". Starting with corn in Mexico, he led the development of specialized seed and improved farming practices to meet local conditions leading to improved quality and quantity of crops. The "Green Revolution" improved the lives of millions of small farmers and hundreds of millions of hungry people.

How, then, can GrainPro play a leading role in the effort for better, safer storage of seeds and crops? Reaching the small farmer on a meaningful scale can only be done through partnerships with those who share our vision, and who can help reach directly or indirectly the small farmer, and ultimately bring about self sustaining commercial markets for affordable and effective storage systems. In addition, we believe storage at the community level warehouse storage as now processed in some parts of Africa with warehouse receipts for farmers who store their crops for later sale and can set loans on the receipt, can become far more feasible with low-cost, fully-protected airtight storage, to safeguard the collateral.

In 2008, The Raizada Foundation of Canada awarded GrainPro the global Raizada Prize for Agricultural Innovation, in "recognition of their inexpensive low oxygen bag technology as well as successful efforts in developing nations to help poor farmers reduce post-harvest grain storage losses caused by pests and disease".

Now we need to live up to that challenge by bringing the "Green Revolution – Part II, The Safe Storage Revolution" to scale.

We see the following as among potential partnership vehicles:

- 1) Partnering with major foundations/international agencies such as:
 - Gates Foundation**
 - World Food Program**
 - Avina Foundation**
 - Ford Foundation**

- 2) Government foreign aid programs such as:
 - USAID**
 - Millennium Project**
 - DIFD**

- 3) Government Departments, such as:
 - Departments of Agriculture in the developing world**

 - Other governmental agencies and programs such as existing agricultural programs in:
 - Philippines (NABCOR)**
 - Guatemala (ProRural)**
 - Rwanda (MINAGRI),**
 - Malawi, and other proposed programs in several countries**
 - SAGARPA in Mexico**

- 4) International Research and Implementation Centers such as:
 - International Rice Research Institute (IRRI) in the Philippines, and**
 - CYMMIT (corn) in Mexico, WARDA W.Africa, ICRISAT-India**

- 5) International Agricultural Market Suppliers, Buyers and Distribution Companies who can already reach the small farmer such as:
 - Cargill**
 - Monsanto**
 - Bayer**
 - ADM**
 - Nestle**
 - Syngenta**
 - Pioneer**
 - United Villages (India)**
 - Wal-Mart**
 - Fertilizer companies**

- 6) International NGO's such as:
 - CONCOR in Ireland**
 - Technoserve**
 - MercyCorps**
 - CARE**
 - CRS**
 - Worldvision**
 - ACRI / VOCA**

CONCLUSION:

As effectively dramatized in the recent book by Scott Kilman and Roger Thurow called "Enough: Why the World's Poorest Starve in an Age of Plenty", motivated, private companies can affect dramatic

change in dealing with world hunger. We believe using its unique hermetic (airtight) systems, GrainPro, in collaboration with others can ignite the “Green Revolution – Part II - The Safe Storage Revolution” by virtually eliminating storage losses both of quality and quantity in an affordable manner with major impact on the lives of small farmers and the hungry in the developing world.